

REMARKS/ARGUMENTS

Status of Claims

Claims 1, 2, 6, 8, 17-18, 23-24, 31, 38, 43, 45-46, 52-53 have been amended.

Claims 4, 25-30, and 32-36 have been previously canceled.

Claims 10, 37, 39-42, 44, and 49-51 are herein canceled.

Claims 54-68 are new claims.

As such, claims 1-3, 5-9, 11-24, 31, 38, 43, 45-48, and 52-68 are currently pending in this application.

Applicants hereby request further examination and reconsideration of the presently claimed application.

Claim Rejections – 35 U.S.C. §112, second paragraph

Claims 2, 42 and 43 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter the Applicants regard as the invention. Claim 42 has herein been canceled. With respect to claims 2 and 43, the Examiner states in the Office Action dated September 7, 2006, page 2 section 2, that “in claims 2 and 43, ‘the composition comprising a metal halide-containing compound comprises...(iii) a non-metal halide and a metal alkyl’ does not definitely require that a metal halide-containing compound either be formed or be present in the (iii) mixture, hence this recitation is vague and indefinite.” In an effort to satisfy the Examiner, claims 2 and 43 have been amended to recite “(iii) a metal halide-containing compound formed from a non-metal halide and a metal alkyl.” The Applicants believe that this eliminates the 35 USC §112 rejection, however, if the Examiner does not feel that this amendment satisfies his requirements, he is invited to contact the attorney of record or otherwise propose acceptable claim amendments.

Claim Rejections – 35 U.S.C. §103

Claims 1-3, 5-24, 31, 39-42, and 46-51 stand rejected under 35 USC §103(a) as being unpatentable over *Reagen* (U.S. 5,376,612) in view of *Manzer* (U.S. 4,057,565). Claims 43-46, 52, and 53 stand rejected under 35 USC §103(a) as being unpatentable over *Reagen* in view of *Furtek* (U.S. 4,876,229). The Applicants respectfully submit that the prior art of record does not establish a *prima facie* case of obviousness as to the pending claims. If an independent claim is nonobvious under 35 USC §103, then any claim depending therefrom is nonobvious. *In Re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). According to MPEP § 2142, three basic criteria must be met to establish a *prima facie* case of obviousness:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

The Applicants respectfully submit that *Reagen*, *Manzer*, and *Furtek* do not teach or suggest each and every limitation set forth in the pending claims, and therefore the combination does not make obvious the pending claims. Additionally, there is no motivation to modify the references to obtain the claimed invention.

I. Claims 1-3, 5-24, 31, 39-42, and 46-51

Claims 1-3, 5-24, 31, 39-42, and 46-51 stand rejected under 35 USC §103(a) as being unpatentable over *Reagen* (U.S. 5,376,612) in view of *Manzer* (U.S. 4,057,565). It is noted that claims 39-42 are herein canceled.

References Do Not Teach Each and Every Element

Claim 1 is an independent claim from which claims 1B-1F, 2, 3, 5-9, 10-22, and 38 depend. Amended claim 1 recites “a composition comprising a chromium-containing compound, wherein the composition comprising a chromium-containing compound further comprises *acidic protons, water, or both*; a pyrrole-containing compound; a metal alkyl; a metal halide-containing compound, a non-metal halide-containing compound, or both; and optionally a solvent, the method comprising: abating all or a portion of the water, acidic protons, or both *from* the composition comprising the chromium-containing compound by contact thereof with a *non-halide* metal alkyl *prior* to contact thereof with a composition comprising the metal halide-containing compound.”

Reagen does not disclose, as in the instant claim 1, “abating all or a portion of the water, acidic protons, or both *from the composition comprising the chromium-containing compound*.” While *Reagen* points out, at column 5 lines 21-22, that “the reaction preferably occurs in the absence of ... moisture,” *Reagen* nowhere discloses “abating all or a portion of the water, acidic protons, or both *from the composition comprising the chromium-containing compound*.”

Another limitation of amended claim 1 is that the abatement of all or a portion of the water, acidic protons, or both occurs “by contact thereof with a *non-halide* metal alkyl.” The Examiner stated on page 3 of the response dated May 24, 2006, and to which he refers in the present Office Action dated September 7, 2006, that “*Reagen* lacks explicit disclosure that a non-halide metal alkyl can eliminate water from any of the reagents used in the preparation of its compounds.” Thus, the limitation of the present claim 1 of “contact thereof with a *non-halide* metal alkyl prior to contact thereof with a composition comprising the halide-containing compound” further distinguishes over *Reagen*.

The contact of the composition comprising the chromium-containing compound with a non-halide metal alkyl prior to contact with other reagents is specified in the instant claim 1 in order to eliminate water, acidic protons, or both, without the formation of corrosive compounds. As discussed in the present specification [0031]-[0033], water may be “abated from one or more catalyst components by contact thereof with a corrosive abatement compound, such as a halide-containing compound, which reacts with and abates the water” and “may produce a corrosive compound, e.g., HCl.” However, the specification goes on to explain, in paragraph [0033], that “water, acidic protons, or both may be abated by pre-contacting one or more catalyst components with a non-corrosive abatement compound ... that does not form a corrosive compound such as a hydrogen halide compound” prior to any contact with corrosive abatement compounds. Although, as the Examiner states, at page 3 paragraph 1 of the Office Action dated September 7, 2006, *Reagen* discloses the use of aluminum alkyls in the composition, nowhere is it recited that the composition comprising the chromium-containing compound is contacted “with a *non-halide* metal alkyl prior to contact thereof with a composition comprising the metal halide-containing compound.”

The Examiner cites *Manzer* to teach the non-metal alkyl can eliminate water from any of the reagents, stating on page 3 of the Office Action dated May 24, 2006, and to which the Examiner refers in the present Office Action that “*Manzer* explicitly teaches that organoaluminum compounds, a species of non-halide metal alkyl, can indeed remove trace water from compounds analogous to those of the present claims.” However, Applicants respectfully traverse and point out that *Manzer* does not disclose the missing limitations. Specifically, *Manzer* teaches, at column 6 lines 35-37, that “the *diluent* should be anhydrous and preferably is made so by passing it through highly absorptive alumina....” Although *Manzer*, column 6 lines 38-42, discloses that “the liquid

diluents can also be freed of contaminants such as oxygen and water by treatment with traces...of the organoaluminum compound to be used as a catalyst component in the polymerization,” he nowhere discloses abating “all or a portion of the water, acidic protons, or both *from the composition comprising the chromium-containing compound* by contact thereof *with a non-halide metal alkyl prior to contact thereof with a composition comprising the metal halide-containing compound*” or that “the composition comprising a chromium-containing compound further *comprises acidic protons, water, or both*” as disclosed in amended claim 1. In light of the fact that *Reagen* fails to disclose each and every element of the instant claim 1 and *Manzer* does not make up for the lack of teaching from *Reagen*, a *prima facie* case of obviousness has not been made.

No Motivation To Modify

Furthermore, in direct opposition to the instant case, *Reagen* teaches, at column 14 paragraph [4], “the reaction can also take place in the presence of a halide source.” And further, at column 14 paragraph [6], *Reagen* teaches that “the chromium source, the metal alkyl, and/or unsaturated hydrocarbon can contain and provide a halide to the reaction mixture.” Preferably, *Reagen* states, at column 15 paragraph [1], that the “*halide source* is, most preferably, combined *with the chromium source and pyrrole-containing compound prior to addition of a metal alkyl*, i.e., the chromium source and the pyrrole-containing source are pre-treated with a halide source.” *Reagen*, in fact, teaches away from the use of a *non-halide* pre-treatment. Instead, *Reagen* teaches contacting the chromium source and pyrrole-containing compound with a halide source (column 15 paragraph [1], *Reagen*) *prior to the addition of a metal alkyl*. Thus, there is no motivation to modify *Reagen* and another element in a *prima facie* case of obviousness is lacking. As such, Applicants respectfully request removal of the 35 USC §103(a) rejection to claim 1 and allowance of claim 1 and claims 2, 3, 5-9, 11-22, and 38 that depend therefrom.

Analogously to claim 1, amended independent claims 23, 24, 31, 43, and 46 also recite the limitations 1) that “water, acidic protons, or both are *abated from the composition comprising the chromium-containing compound*,” and 2) that the abatement occurs *prior* to formation of the catalyst. Claims 23, 24, and 31 also recite the limitation that abatement is performed through contact “with a *non-halide* metal alkyl.” As discussed above with respect to independent claim 1, *Reagen* and *Manzer* fail to disclose each and every limitation of these claims, and, as such, it is respectfully requested that the 35 USC §103(a) rejections to these claims be removed and claims 23, 24, 31, 43, and 46 and the claims depending therefrom be allowed.

II. Claims 43-46, 52 and 53

Claims 43-46, 52, and 53 stand rejected under 35 USC §103(a) as being unpatentable over *Reagen* in view of *Furtek* (U.S. 4,876,229). Claims 43 and 46 are independent claims from which claims 45 and 52-53 respectively depend.

Amended claim 43 recites “a composition comprising a chromium-containing compound and a pyrrole-containing compound, wherein the composition comprising the chromium-containing compound, the pyrrole-containing compound, or both further *comprise acidic protons, water, or both*; a metal alkyl; a metal halide-containing compound, a non-metal halide-containing compound, or both; and optionally a solvent, the method comprising: *abating all or a portion of water, acidic protons, or both from the composition comprising the chromium-containing compound, a composition comprising the pyrrole-containing compound, or combinations thereof prior to contact thereof with a composition comprising the metal halide-containing compound*, wherein the composition comprising a halide-containing compound comprises (i) a metal alkyl halide, (ii) a metal halide and a metal alkyl, (iii) a halide-containing compound formed from a non-metal halide and a metal alkyl, or (iv) combinations thereof, and wherein water is removed *from*

the composition comprising the chromium-containing compound, the composition comprising the pyrrole-containing compound, or both via contact with an adsorbent."

Reagen fails to disclose the limitation recited in instant claim 43 of "abating all or a portion of water, acidic protons, or both *from the composition comprising the chromium-containing compound, a composition comprising the pyrrole-containing compound, or both.*" *Furtek* discloses, column 11 paragraph [5], "prior to use, the *diluent* should be purified, e.g., by percolation through silica gel and/or molecular sieves, to remove traces of water, oxygen, polar compounds, and other materials," but nowhere discloses that water, acidic protons, or both are abated "*from the composition comprising the chromium-containing compound, a composition comprising the pyrrole-containing compound, or both.*"

As discussed in Section I above, *Reagen* also fails to disclose that the abatement is performed "*prior* to contact thereof with a composition comprising the metal halide-containing compound." Nowhere does *Furtek* teach this missing limitation. Thus, *Furtek* fails to make up for the lack of teachings by *Reagen* and it is respectfully requested that claim 43 and claim 45 which depends therefrom be allowed.

Analogously to claim 43, claim 46 now includes the limitations "abating all or a portion of water, acidic protons, or both *from the composition* comprising the chromium-containing compound" and performing the abatement "*prior* to formation of the catalyst." As discussed in Section I above, *Reagen* and *Furtek* fail to teach these elements of claim 46. It is thus respectfully requested that the 35 USC §103(a) rejection to claim 46 be removed, and claim 46 and dependent claims 52 and 53 be allowed.

New Claims

Claims 54-58 are new claims depending from independent claim 1 and which incorporate additional limitations on the chromium-containing compound of claim 1. Support for “wherein the chromium-containing compound has the formula CrX_n , wherein X is an organic or inorganic radical, and n is an integer from 0 to 6” and “wherein the organic radical is selected from the group consisting of alkyl, alkoxy, ester, ketone, amino radicals, and combinations thereof” of claims 54 and 55 respectively can be found, for example, in paragraph [0081] of the specification as filed. New claims 56, 59, 61 and 68 recite “wherein the chromium-containing compound is a chromium carboxylate,” and support for this can be found, for example, at paragraph [0082] of the specification as filed. New claims 57, 60, and 62 which recite “wherein the chromium-containing compound is selected from the group consisting of chromium (III) isooctanoate, chromium (III) 2,2,6,6-tetramethylheptanedionate, chromium (III) naphthenate, chromium (III) chloride, chromium (III) tris(2-ethylhexanoate), chromic bromide, chromic chloride, chromic fluoride, chromium (III) oxy-2-ethylhexanoate, chromium (III) dichloroethylhexanoate, chromium (III) acetylacetonate, chromium (III) acetate, chromium (III) butyrate, chromium (III) neopentanoate, chromium (III) laurate, chromium (III) stearate, chromium (III) oxalate, chromium (III) benzoate, chromium (III) pyrrolide(s), and combinations thereof” and claim 58 which recites “wherein the chromium-containing compound is chromium (III) 2-ethylhexanoate” find support at, for example, paragraph [0082] of the specification as filed.

New claim 64 is an independent claim which incorporates the limitations of dependent claim 13 into independent claim 1. New claims 65, 66, and 67 depend from new claim 64 and parallel claims 10, 17, and 18 respectively. No new matter is introduced with these claims, and Applicants submit that they are in condition for allowance.

CONCLUSION

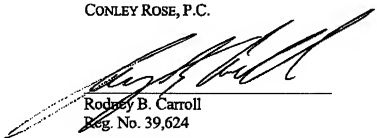
Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections are respectfully requested by Applicants. No new matter is introduced by way of the amendments. It is believed that each ground of rejection raised in the Office Action dated September 7, 2006 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,

CONLEY ROSE, P.C.

Date: 12-7-06



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